

2017 Active Transportation Program

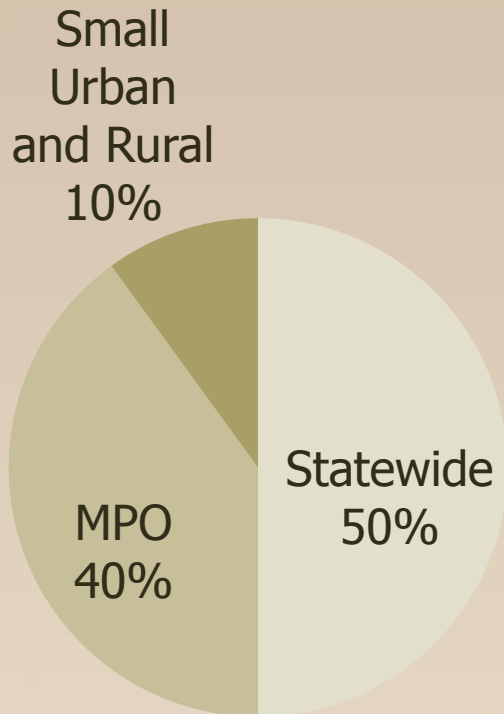
April 4, 2016

Stephen Patchan
Active Transportation & Special
Programs



Active Transportation Program

- 3 Funding Programs
- Cycle 3 total funds=~\$240 M
- Funding Breakdown:



SCAG Regional Program

- \$50 million
- Fiscal Years 2019-2020, 2020-2021

Active Transportation Program Goals

- Increase trips by biking and walking.
- Increase the safety
- Achieve greenhouse gas reduction goals
- Enhance public health
- Ensure disadvantaged communities fully share in benefits
- Provide a broad spectrum of projects

Eligible Projects



Planning

Community-wide plans that benefit disadvantaged communities



Non-Infrastructure

Education
Encouragement
Enforcement



Infrastructure

Bike Lanes
Cycle Tracks
Crosswalks
Etc...

RTP/SCS

- Regional Transportation Plan/ Sustainable Communities Strategy will be adopted on April 7th, 2016
- **ATP project must be consistent with adopted RTP/SCS**
 - **Active Transportation Appendix:**
http://scagrtpscs.net/Documents/2016/proposed/pf2016RTPSCS_ActiveTransportation032816.pdf

2017 ATP Schedule

- Call for projects **April 15, 2016**
- Project applications to Caltrans (postmark date) **June 15, 2016**
- Commission adopts statewide and small urban and rural portions of the program **December 7-8, 2016**
- Deadline for MPO project programming recommendations to the Commission **January 27, 2017**
- Commission adopts MPO selected projects **March 2017**

Workshop Goals

- Provide general information about ATP process
- Inform applicants of best practices in outreach, project design, and public health engagement
- Highlight innovative treatments
- Identify what's worked in past successful applications
- Tips for framing narratives and enhancing applications

Workshop Agenda

10:10 am Go Human Integration

Julia Lippe-Klein

Regional Planner

Southern California Association of Governments

10:20 am Health Department Coordination and Tools

Community Engagement

Amy Buch

Health Promotion Division Manger

Orange County Health Care Agency

Data Sources

Carla Blackmar

Project Manager

Public Health Alliance of Southern California

10:50 am Innovative Designs and Safety

Bikeway Design

Rock Miller

Senior Principal

Stantec

Intersection Improvements

Matt Benjamin

Principal

Fehr and Peers

11:20 am Elements for Success

Cost Effective Ways to Green Your Project

Ryan Snyder

Principal

Transpogroup

Adding the E's (Education, Encouragement, Enforcement)

Ryan Johnson

Senior Planner

Alta Planning + Design

11:50 am Wrap Up and Questions

Stephen Patchan

Contact Information

Stephen Patchan

Patchan@scag.ca.gov

213-236-1923

Southern California Active Transportation Safety & Encouragement Campaign



Toolbox Tuesday

April 5, 2016

Julia Lippe-Klein



Go Human in ATP Cycle 3

- Campaign Background
- Advertisements & Educational Resources
- Incorporating *Go Human* into project proposals
- Reference Guide/Cheat Sheets

Campaign Objectives

- Reduce collisions, create safer streets
- Increase rates of active transportation
- Reduce greenhouse gases
- Improve public health
- Support ATP and other active transportation investments
- Change the reputation of the region



Driver Ads



It's not just a sign.
Watch for people walking.



It's not just a sign.
Give people room to ride.



It's not just a sign.
Look for her before you turn.



Pedestrian & Bicyclist Ads



Be on the safe side.
Cross at the corner or crosswalk.



Go with the flow.
Ride in the direction of traffic.



No matter how you roll.
Stop means stop.



Advance your ATP Cycle 3

Application: Reference Guide



- Digital Toolkit
- Examples of co-branded artwork
- Media planning rates (market, medium, quantity, flight, est. # of impressions, production cost)

Digital Toolkit



Digital Resources:

- Web banners in English & Spanish
- Curated tweets and Facebook posts
- Flyers with encouragement facts and safety tips in multiple languages



Go Human in the community

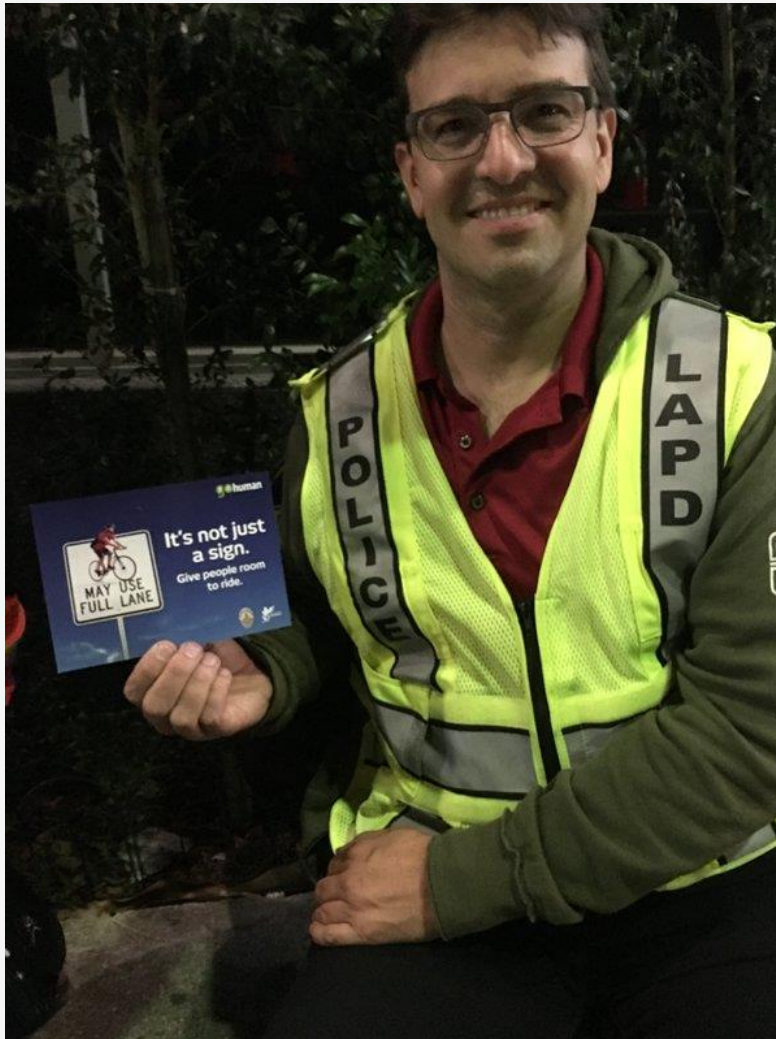


Media Planning Rates



COUNTY	MEDIUM	QUANTITY	LEVEL	ESTIMATED IMPRESSIONS PER FLIGHT	FLIGHT (DURATION)	ESTIMATED MEDIA COST PER FLIGHT	COMMENTS	ESTIMATED PRODUCTION COST
Outdoor Advertising								
Los Angeles	Bus Tails	300	#25 Showing	31,200,000	4-weeks	\$74,118	#25 Showing = estimated ad exposure to 25% of market population	\$20 per tail
Los Angeles	Bus Shelters	115	#25 Showing	33,700,000	4-weeks	\$91,324	#25 Showing = estimated ad exposure to 25% of market population	\$80 per shelter poster
Los Angeles	Billboards (Bulletins)	1	N/A	1,400,000	4-weeks	\$8,824	Bulletins are typically bought per budget and strategy versus showing level	\$500 per bulletin vinyl
Orange	Bus Tails	65	#25 Showing	6,400,000	4-weeks	\$24,706	#25 Showing = estimated ad exposure to 25% of market population	\$20 per tail
Orange	Bus Shelters	28	#25 Showing	6,800,000	4-weeks	\$13,529	#25 Showing = estimated ad exposure to 25% of market population	\$80 per shelter poster
Orange	Billboards (Bulletins)	1	N/A	1,400,000	4-weeks	\$8,824	Bulletins are typically bought per budget and strategy versus showing level	\$500 per bulletin vinyl
Riverside	Bus Shelters	6	#25 Showing	1,600,000	4-weeks	\$4,765	#25 Showing = estimated ad exposure to 25% of market population	\$80 per shelter poster
Riverside	Billboards (Bulletins)	1	N/A	32,900,000	4-weeks	\$7,647	Bulletins are typically bought per budget and strategy versus showing level	\$500 per bulletin vinyl
San Bernardino	Bus Tails	42	#25 Showing	3,800,000	4-weeks	\$14,824	#25 Showing = estimated ad exposure to 25% of market population	\$20 per tail
San Bernardino	Bus Shelters	23	#25 Showing	4,300,000	4-weeks	\$6,765	#25 Showing = estimated ad exposure to 25% of market population	\$80 per shelter poster
San Bernardino	Billboards (Bulletins)	1	N/A	1,000,000	4-weeks	\$5,294	Bulletins are typically bought per budget and strategy versus showing level	\$500 per bulletin vinyl
Ventura	Bus Shelters	10	N/A	1,600,000	4-weeks	\$4,706	Limited Oxnard locations. Shelters N/A in Ventura.	\$80 per shelter poster
Ventura	Billboards (Bulletins)	1	N/A	2,000,000	4-weeks	\$17,647	Limited outdoor inventory in market	\$500 per bulletin vinyl
Imperial	Billboards (Bulletins)	1	N/A	350,000	4-weeks	\$2,353	Bulletins are typically bought per budget and strategy versus showing level	\$500 per bulletin vinyl
Digital Advertising								
LA, OC, Riverside, San Bernardino, Ventura, Imperial	Facebook Promoted Posts	5,000 Clicks	N/A	250,000	4-weeks	\$5,882	Targeted zip codes, per 6-counties	No paid media production cost
LA, OC, Riverside, San Bernardino, Ventura, Imperial	Pandora	4,000 Clicks	N/A	1,400,000	4-weeks	\$11,785	Targeted zip codes, per 6-counties	No paid media production cost
Radio (Per Radio Market)								
Los Angeles/Orange	Radio	350 Spots	150 GRPs	8,500,000	2-weeks	\$90,000	75 GRPs/week (150 Total)	No paid media production cost
Riverside-San Bernardino	Radio	350 Spots	150 GRPs	1,500,000	2-weeks	\$25,000	75 GRPs/week (150 Total)	No paid media production cost
Palm Springs	Radio	150 Spots	150 GRPs	250,000	2-weeks	\$2,500	75 GRPs/week (150 Total)	No paid media production cost
Oxnard-Ventura	Radio	175 Spots	150 GRPs	300,000	2-weeks	\$8,000	75 GRPs/week (150 Total)	No paid media production cost
Yuma/El Centro	Radio	150 Spots	NA	NA	2-weeks	\$2,500	Yuma/El Centro = non-rated market	No paid media production cost

Leveraging Enforcement Strategies



More information:



Julia Lippe-Klein

lippe-klein@scag.ca.gov



Partnering with Public Health

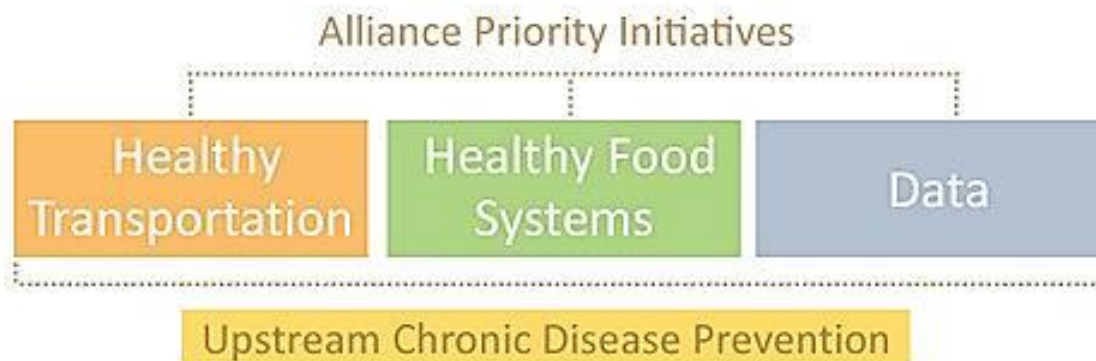
Amy Buch, M.A.

*Orange County Health Care
Agency- Public Health Services
Health Promotion Division*

April 5, 2016



Where is Public Health?





[Home](#) › [Data](#) › Active Transportation Program Eligibility

Active Transportation Program Eligibility

The new California Active Transportation Program (ATP) was approved in the California Legislature in 2013. The goal of the program is to increase active transportation mode share and safety in the state. The Alliance Data Committee worked to ensure that the mechanism for defining 'disadvantaged communities' for the purpose of the program set-aside reflected the group's understanding of disadvantaged communities from a chronic disease/ burden of disease perspective. You can see the final guidelines here:

http://www.catc.ca.gov/programs/ATP/2014_ATP_Guidelines_adopted_032014.pdf

Projects that meet *any one* of the following three criteria qualify for the Disadvantaged Community Set-aside:

- Projects located within zip codes in the top decile of CalEnviroScreen Scores
- Projects located in census tracts below 80% of the average median income
- Projects that serve schools where over 75% of students are eligible for free and reduced price meals through the Federal Student Lunch Program

The following maps illustrate communities eligible for the disadvantaged community set-aside funding as defined by ATP guidelines:

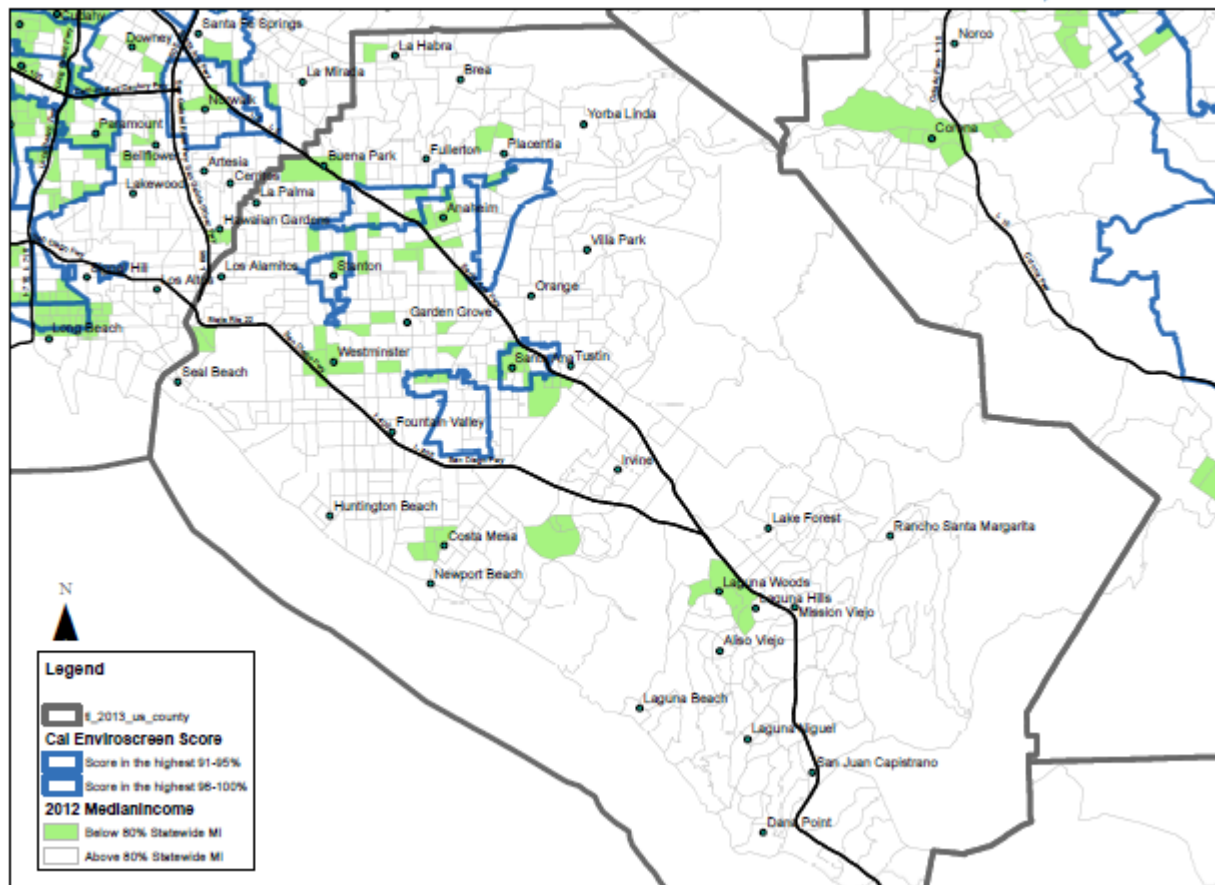
- Zip codes outlined in blue show qualify for ATP disadvantaged community set-aside because they have CalEnviroScreen scores in the 90th percentile or above
- Census Tracts highlighted in green qualify as "disadvantaged" because their median household income (2012 ACS Estimate) is at or below 80% of the statewide median income

Los Angeles:

- [LA County Central with LE](#)
- [LA County Central](#)
- [LA County Full Extent](#)

Data

Orange County



Data

Orange County's

HEALTHIER TOGETHER

Improving Health through Planning and Partnerships



Search this site



[Priorities](#)

[OC Data](#)

[Tools](#)

[Resources](#)

[About Us](#)

[Home](#) > [Community Dashboard](#)

Community Dashboard

Location Type: **Location:**
Breakout By: **Order By:**

Indicators for County: Orange

[View the Legend](#)

Data

Exercise, Nutrition, & Weight

5th Grade Students who are at a Healthy Weight or Underweight MAP	Comparison: CA Counties
7th Grade Students who are Physically Fit MAP	Comparison: CA Counties
9th Grade Students who are at a Healthy Weight or Underweight MAP	Comparison: CA Counties
Adult Fast Food Consumption MAP	Comparison: CA Counties
Adults who are Obese MAP	Comparison: CA Counties
Adults who are Overweight or Obese MAP	Comparison: CA Counties
Adults who are Sedentary MAP	Comparison: CA Counties
Child Food Insecurity Rate MAP	Comparison: U.S. Counties
Child Fruit and Vegetable Consumption MAP	Comparison: CA Counties
Food Insecurity Rate MAP	Comparison: U.S. Counties
Teens who Engage in Regular Physical Activity	Comparison: CA State Value



9th Grade Students who are at a Healthy Weight or Underweight

This indicator shows the percentage of 9th grade students who achieve or exceed the Healthy Fitness Zone for the body composition portion of the annual California Physical Fitness test.

County

Time Period



Comparison: Prior Value ⓘ

70.8
percent

Measurement Period: 2013-
2014

County: Orange

Data Source: [California Department of Education](#) ⓘ

Categories: Health / Exercise, Nutrition, & Weight, Health / Teen & Adolescent Health

Technical Note: The trend is a comparison between the most recent and previous measurement periods. Confidence intervals were not taken into account in determining the direction of the trend.

Maintained By: Healthy Communities Institute

Last Updated: January 2015

Why is this important?

Maintaining a health weight is important for children and adolescents. Obese and overweight children and adolescents are at risk for multiple health problems during their youth and as adults. Obese children and adolescents are more likely to become obese as adults. In a recent study, it was found that nearly 80% of children who were overweight as teenagers were obese adults at age 25. Obese and overweight youth are more likely to have risk factors associated with cardiovascular diseases, such as high blood pressure, high cholesterol, and Type 2 diabetes. Staying at a healthy weight helps prevent and control multiple chronic diseases and improves quality of life.

Data



Environment

Air

Annual Ozone Air Quality [MAP](#)

Annual Particle Pollution [MAP](#)

Daily Ozone Air Quality

Daily Particle Pollution

Recognized Carcinogens Released into Air

Comparison: Air Quality Index



Comparison: Air Quality Index



Comparison: Air Quality Index



Comparison: Air Quality Index



Comparison: Prior Value

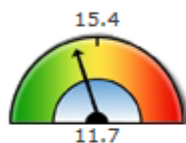


Children and Teens with Asthma

This indicator shows the percentage of children aged 1-17 that have ever been diagnosed with asthma.

Average

Time Period



Comparison: CA State Value ⓘ

11.7
percent

Measurement Period: 2011-
2012

County: Orange

Data Source: [California Health Interview Survey](#) ⓘ

Categories: [Health / Respiratory Diseases](#), [Health / Children's Health](#), [Health / Teen & Adolescent Health](#)

Technical Note: The regional value is compared to the California state value.

Maintained By: Healthy Communities Institute

Last Updated: September 2014

Why is this important?

Asthma is the most common chronic childhood illness, and it can significantly impact quality of life. In the United States alone, over 8.6 million children under the age of 18 have been diagnosed with asthma, and the number continues to rise. The increase in diagnoses may be due to an increase in the amount of time spent indoors and therefore greater exposure to dust mites and allergens; higher levels of air pollution; and limited access to quality healthcare. Asthma results in missed days of school, limitations on daily activities, emergency department visits for treatment of asthma symptoms, and hospitalizations. In addition, asthma has been linked to childhood obesity and depressive symptoms.

Assessment



Assessment



Assessment



Assessment



Intersection of First and Halladay Streets

Programs



Programs



Programs



Programs



Programs



Thanks!



Health Data for ATP Cycle 3

**Carla Blackmar,
Project Manager
Public Health Alliance of
Southern California**

**SCAG Toolbox Tuesday
04.05.2016**



ATP Cycle 3 Public Health Question

1-Other-NA

2017 ATP Application Form

3/30/2016

Part B: Narrative Questions

Detailed Instructions for: Question #5

QUESTION #5

IMPROVED PUBLIC HEALTH (0-10 points)

- NOTE: Applicants applying for the disadvantaged community set aside must respond to the below questions with health data specific to the disadvantaged communities. All applicants must cite information specific to project location and targeted users. Failure to do so will result in lost points.

- A. Describe the health status of the targeted users of the project/program/plan. Describe how you considered health benefits when developing this project or program (for plans: how will you consider health throughout the plan). (5 points max)

- B. Describe how you expect your project/proposal/plan to promote healthy communities and provide outreach to the targeted users. (5 points max.)

Part A

“Describe the health status of the targeted users of the project/program/plan. Describe how you considered health benefits when developing this project or program (for plans: how will you consider health throughout the plan).”

Part A: Health Status

“Describe the health status of the targeted users of the project/program/plan. Describe how you considered health benefits when developing this project or program (for plans: how will you consider health throughout the plan).”

Part A: Health Status—Data Resources

- I. **Health outcomes (obesity, heart disease, diabetes rate, asthma, cancer, mental health)**
 - Zip code level
 - Sometimes hard to create direct nexus

- II. **Social Determinants of Health Data:** Data on the primary socioeconomic and built environment determinants of health
 - Available at a census tract level
 - Possibly has a more direct nexus to ATP project actions

Part A: Health Status—Data Resources

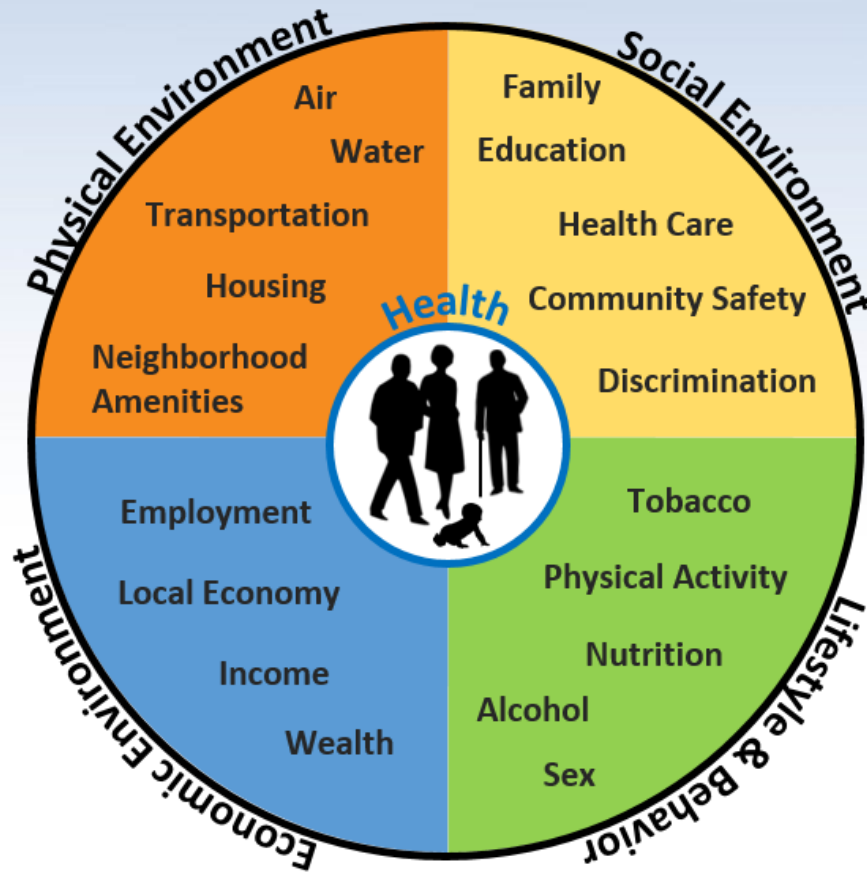
I. Health Outcome Data Resources:

- **Local Health Department**— some SoCal health departments have issued helpful resource guides for completing this question
 - [Los Angeles](#) County
 - [Orange County](#)
- All of our SoCal LHDs have data portals that provide Zip-Code level data to help you answer this question—we will post links on SCAG website.
- **AskCHIS Neighborhood Edition:** self-reported health status, physical activity, and diabetes at a zip-code level
<http://healthpolicy.ucla.edu/chis/Pages/default.aspx>
- **School-level Data:** <http://dq.cde.ca.gov/dataquest/>
- **Collision Data:** though this may be adequately addressed in other sections of your application--<http://tims.berkeley.edu/>

Part B: Healthy Community Promotion

Describe how you expect your project/proposal/plan to promote healthy communities and provide outreach to the targeted users.

Health Status: Social Determinants



In order to articulate how your project or plan will improve health outcomes, it will be most constructive to address how it will **meaningfully** address a few of these social determinants of health.

Health benefit: 'Pat' answer:

- “Increasing physical activity improves health, therefore this project will improve the targeted health status of users by increasing transportation related physical activity.”

Meaningful Answer: HOW??

1. What behavioral, socioeconomic, built environment characteristics are contributing to poor health outcomes in your project area?

- Unemployment?
- Poverty?
- Crime?
- Social Isolation?

2. How will your ATP project be refined to address these social determinants of health challenges?

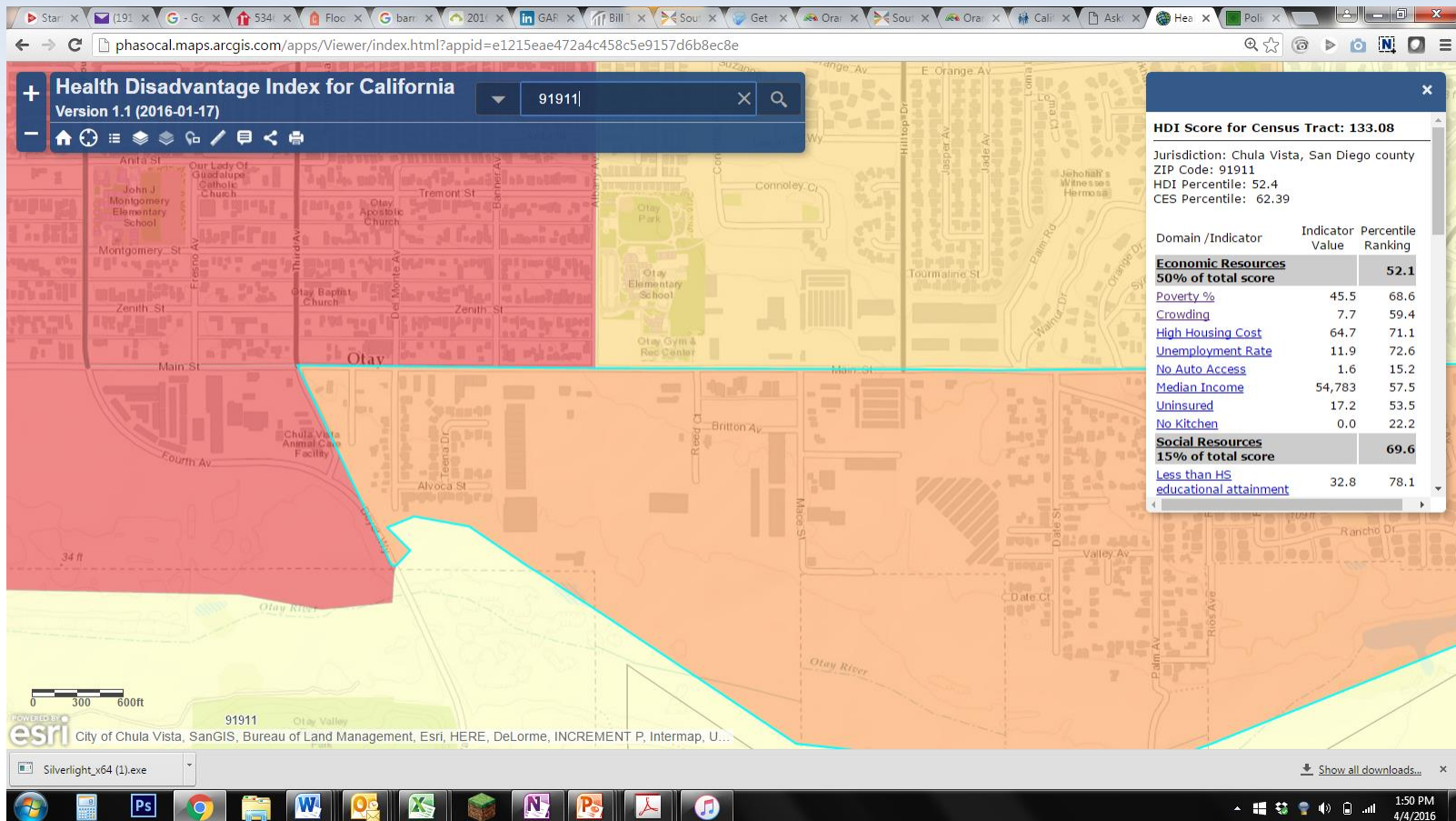
Meaningful Answer: HOW??

Social Determinants of Health Data:

- California Health Disadvantage Index:
<http://phasocal.org/ca-hdi/>
- CDPH Healthy Community Indicators:
<http://www.cdph.ca.gov/programs/Pages/HealthyCommunityIndicators.aspx>
- HealthyCity.org
- National Equity Atlas:
<http://nationalequityatlas.org/>

Example: Health Disadvantage Index

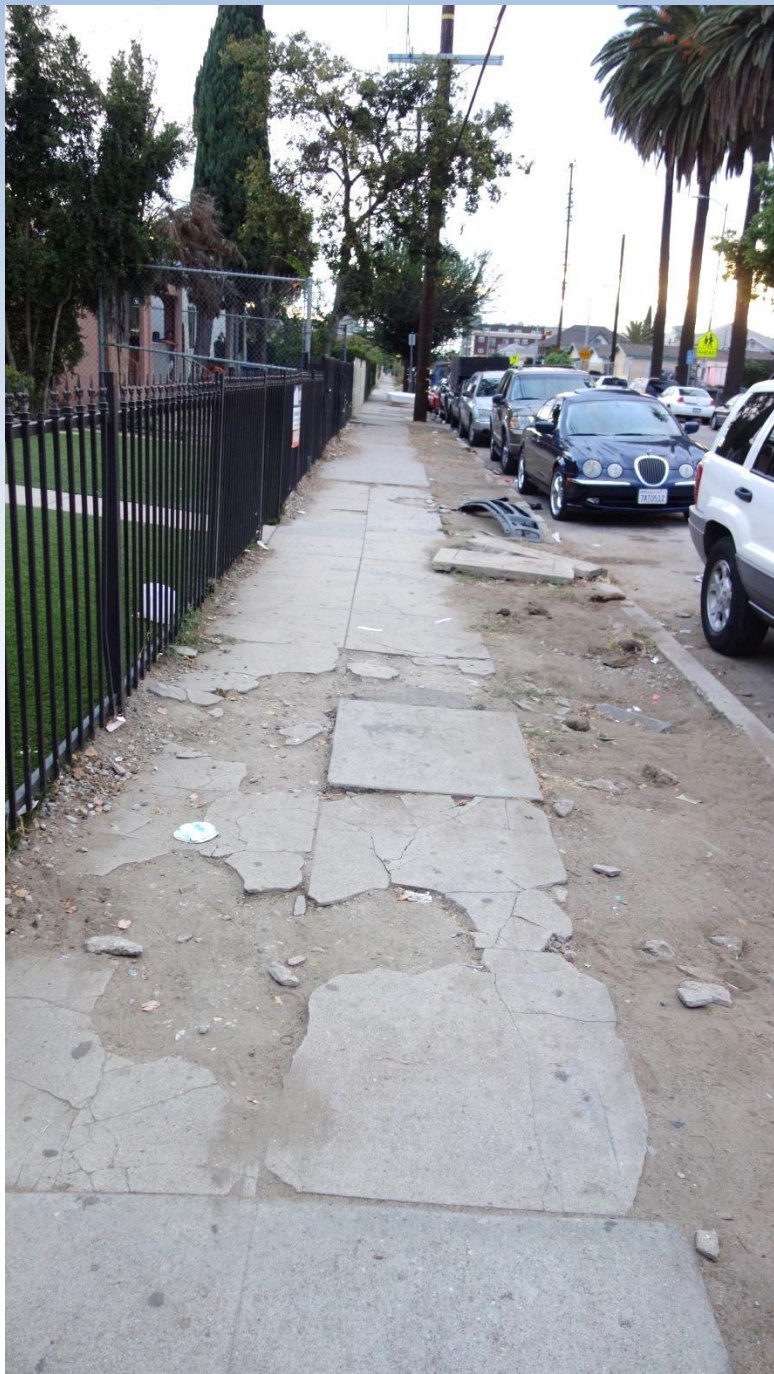
- <http://phasocal.org/ca-hdi/>



Meaningful Answer: How??

Social Determinant of Health	How ATP Might Address this?
Unemployment	Local hire policies Ensure route choices serve employment centers and fill 'first mile/last mile' gaps
Poverty	Program to provide bicycles along with education on care, maintenance and safety
Linguistic Isolation	Outreach in languages spoken by community, culturally competent outreach. Wayfinding 'icons' or signage in dominant languages spoken
Crime/ Safety	Engage targeted users in Crime Prevention Through Environmental Design (CPTED) Survey and Design process
Education	Consider links to pre-school, access for strollers
Shade/ Heat Island	How is green infrastructure being incorporated?

Consider what non-infrastructure connections are needed to make sure your project is accepted, used, and loved!









Purdue Av
2300 S

A-1 SELF S
77
GE

Contact Information:

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PHASoCal.org

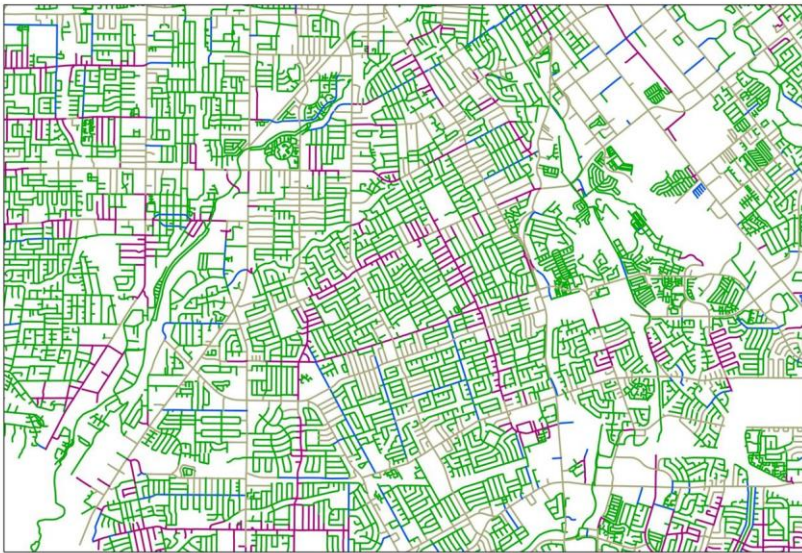
Designing Better Bicycle Facilities

Rock Miller, P.E.

Stantec Consulting

Rock.Miller@Stantec.com

Low Stress Bicycle Networks



Strong & Fearless Bikeway Network



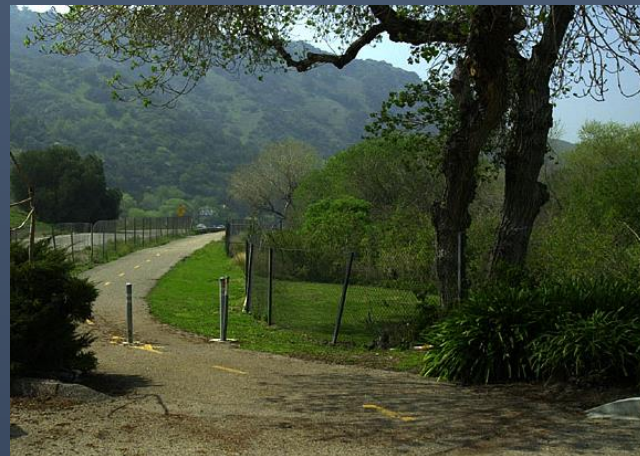
Interested but Concerned Bikeway Network

Bikeway Designs

- Bike Paths
- Bike Lanes
- Bike Routes
- Bike Boulevards
- Separated Bikeways (Cycle Tracks)

Bike Paths

- May Serve Pedestrians
 - Don't work well under high usage
- Should Minimize Cross Flows



Optimal Bike Paths

- Long, Uninterrupted Segments
 - River Trails
 - Waterfronts
 - Rural Rail Corridors



Less Desirable Designs

- Side Paths, Especially with Signalized Crossings
- Former Urban Rail Corridors with Frequent Street Crossings



Bicycle Lanes

- Can Often Fit on Existing Roadways
- Increase Confidence for Bicyclists
- Increase Certainty for Motorists
- Shall be One Way Facilities
- Less Attractive above 50 kph



Road Diet

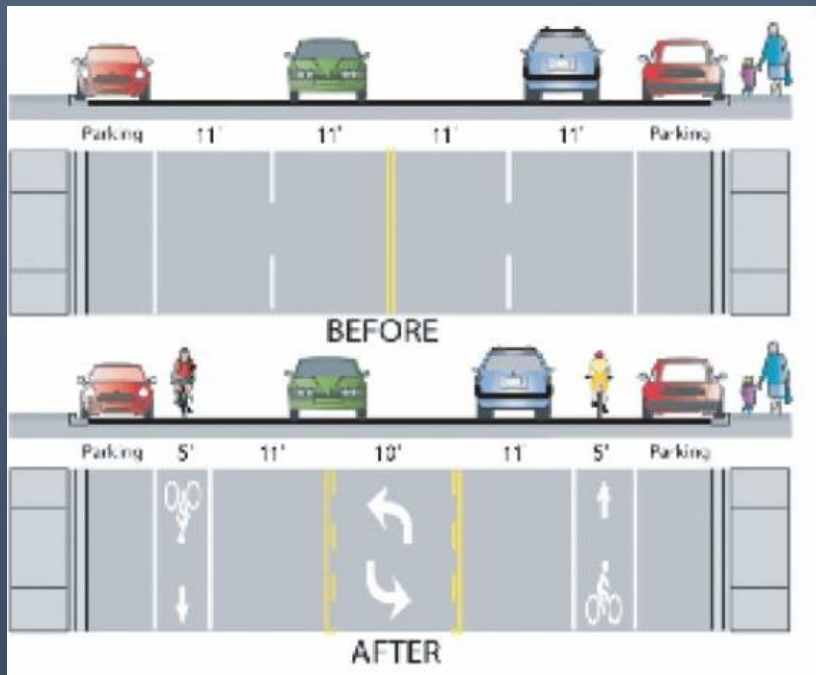


Photo: Michael Ronkin

Dooring

- Bicycle Collision with Opening Car Door
- Great Potential for Injury to Bicyclists
- Underscores Need for Adequate Width



Posted Bike Routes

- Route Signing Only
- Provide Continuity
- Should be Used where Bicycling is to be Encouraged
- Sometimes Used on Busy Streets where No Other Treatment seems Feasible



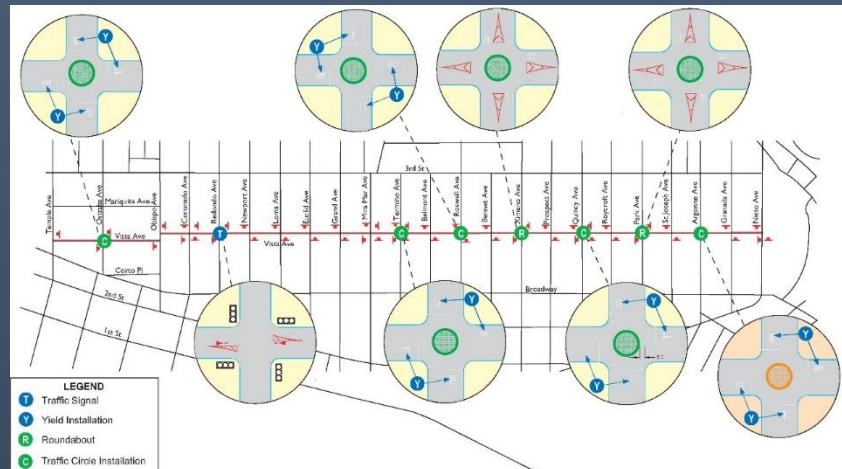
Sharrows

- New Standard Pavement Marking
- Advises Motorists to Expect Bicyclists
- Advises Bicyclists to Ride in Safer Location
- Useful with Posted Bike Routes
- Not Well-Suited for Increasing Usage



Bicycle Boulevard

- Minor Street Modified to Suit Bicycling
- Low Auto Traffic and Speeds
- Traffic Controls Optimized for Bicycling



Good Candidates

- Long Continuous Back Streets
- Streets that Have a History of Traffic Calming Needs
- Low Vehicle Traffic upon Completion
- Provide Access to Cycling Destinations
- Easy to Find in Grids, but may be Found in Newer Layouts



Cycle Tracks

- Separated Bikeways
- Protected Bikeways



Cycle Tracks

- Backbone of European Successes



Montreal Cycle Track



Cycle Track Opportunities

- Requires Road Space
- Minimal Driveways Desirable
- Landscape and New Pavement can get Expensive



Redondo Beach

- Beachfront Bike Path Extension





Calgary, AB



Design Intersection



Matt Benjamin, Principal
April 5, 2016

Intersections tend to be the most...

- Important (safety/comfort)
- Challenging (technical/cost)
- Overlooked (esp. in funding/environmental stages)

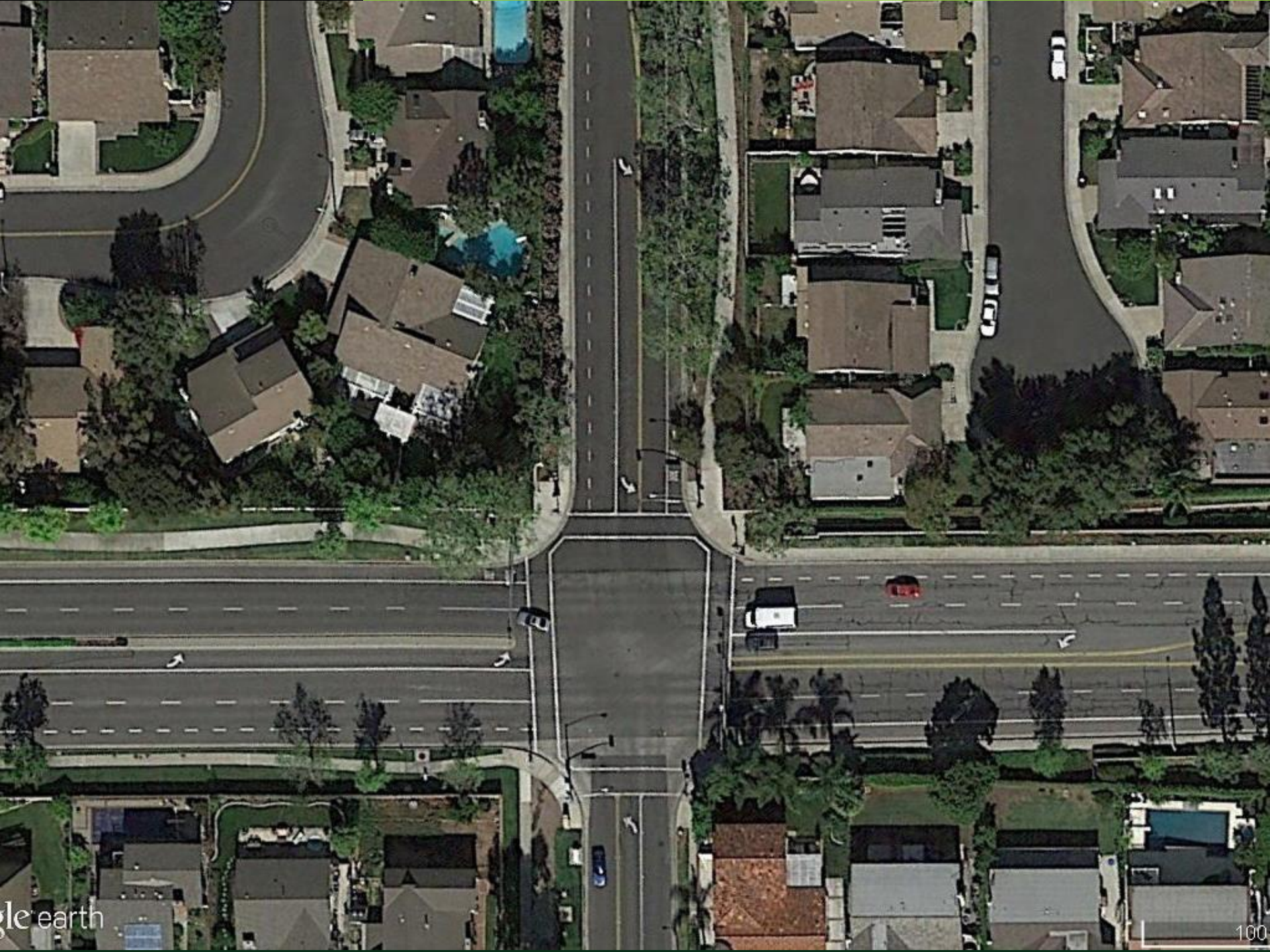
...design element



Leads to:

- **Unsafe or uncomfortable design solutions**
- Unforeseen impacts
- Cost and schedule overruns
- Rescoping / Deobligation of funds

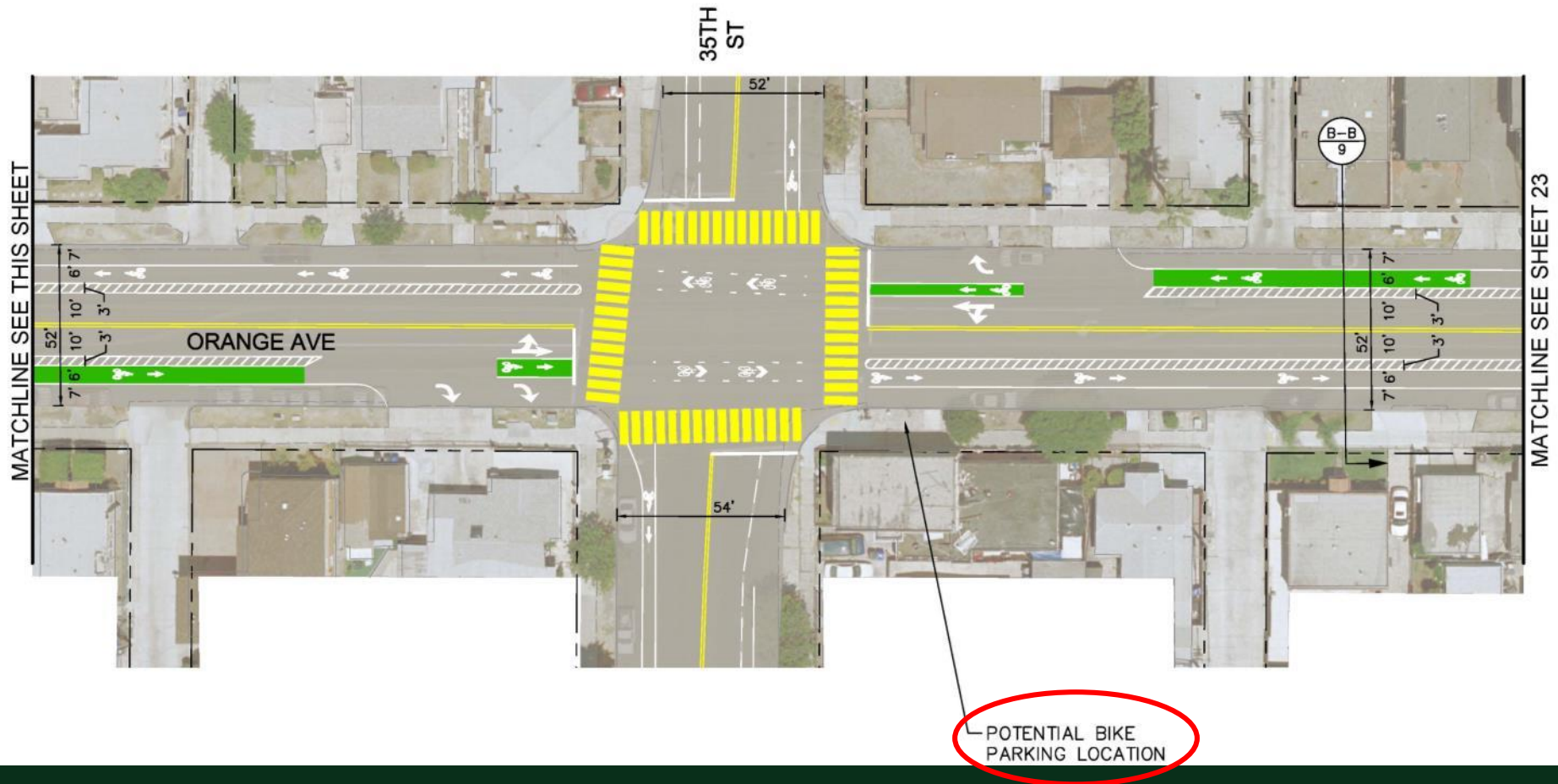




Strategies for safe, efficient, low-stress intersections:

Mitigate Conflicts	Eliminate Conflicts
Increase legibility / reduce complexity	Grade-separation
Reduce speeds / improve visibility	Signal phasing

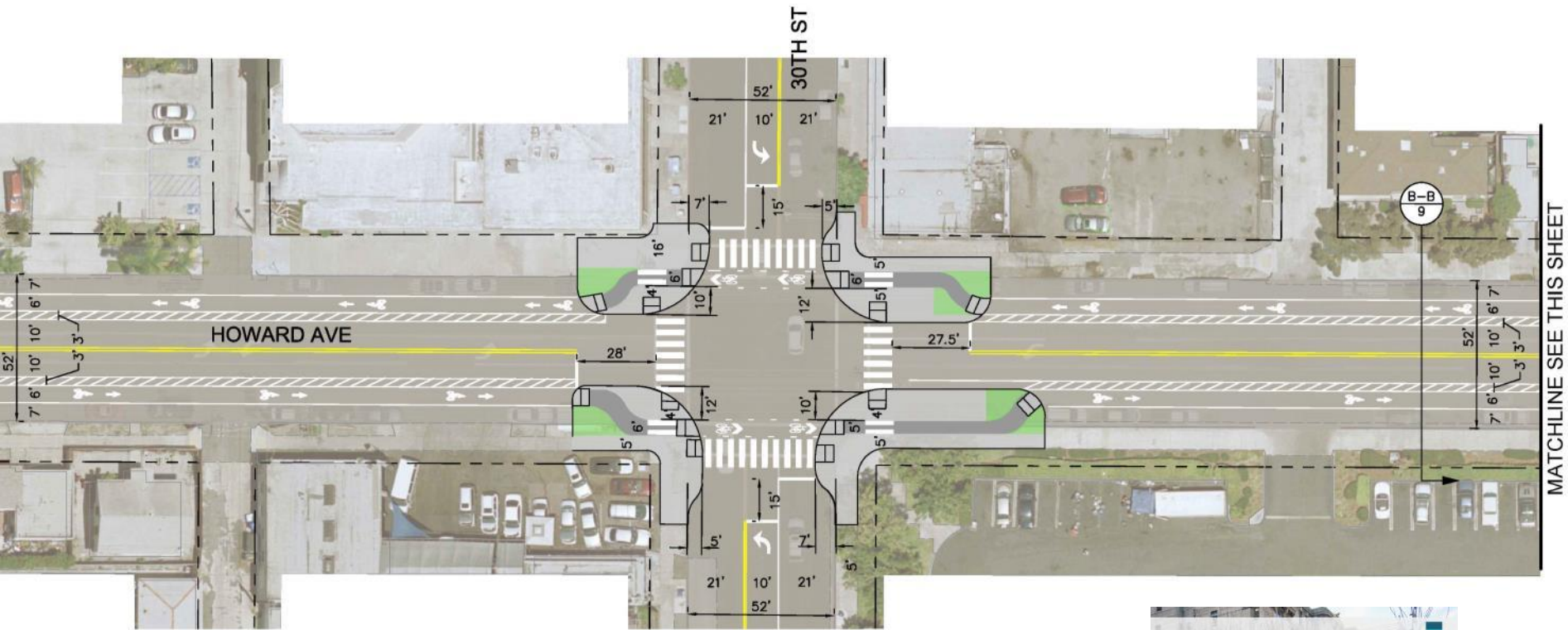
Good Upstream Lane Positioning



Maintain straightest possible path through intersection for bikes
Consider dashed green through intersections (maintenance)



Reduce Speeds / Increase Visibility



Bend Outs

Cyclist stays to the right of turning traffic

Curb returns are designed to slow turning vehicles, increase visibility and reaction time



Reduce Speeds / Increase Visibility



Protected Intersections (“Dutch junction”)

Best at junction of two separated bike lanes (cycle tracks)

New treatment – mentioned in Caltrans Class IV guidance





Source: Rock Miller

Junction of two bike paths



Grade Separation – Bridge



Pros

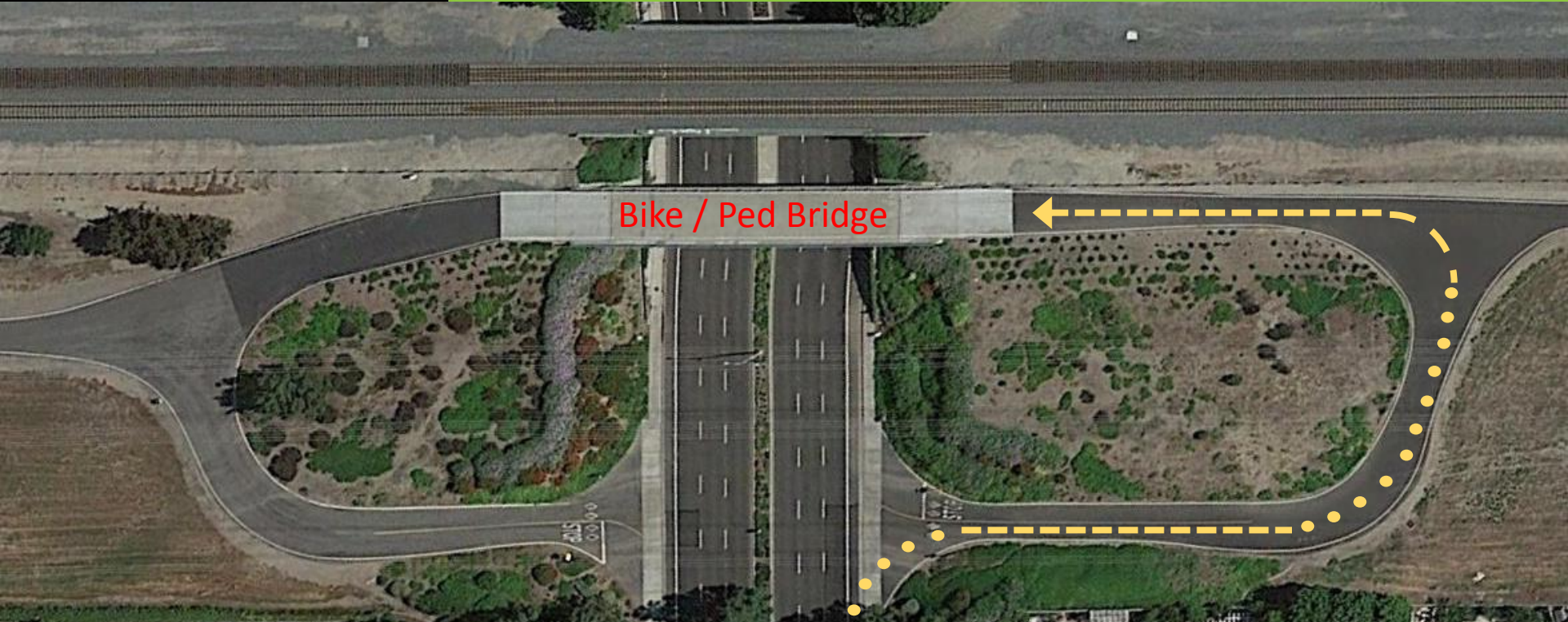
- Eliminates conflict
- Reduces delay

Cons

- Expensive
- Adds slope
- Visual impacts
- Creates out-of-direction travel for connections between path and street

Grade Separation – Undercrossing / Tunnel





At-Grade Crossing



Pros

- Inexpensive
- Direct path
- Makes path use visible

Cons

- Traffic operations impacts
- Compliance

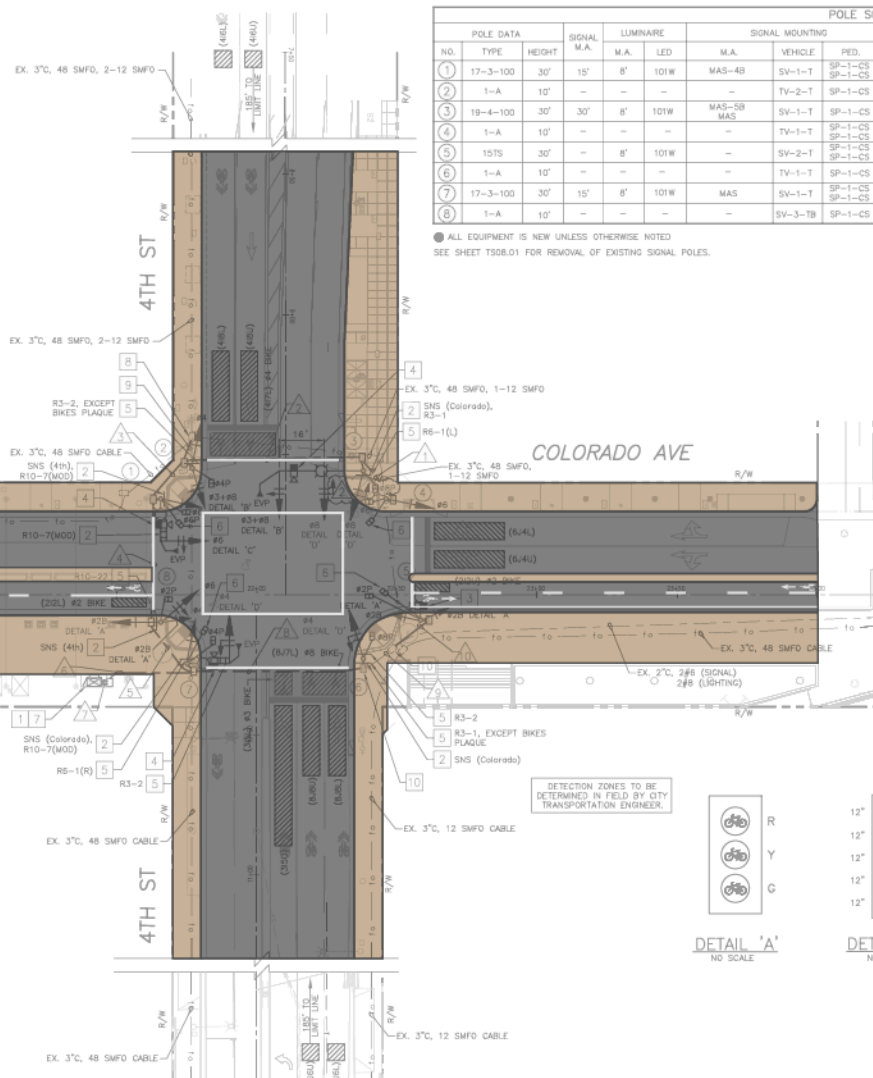
- May not work in some locations
 - Sight distance
 - Proximity to existing signalized intersections

Phase Separation

CONDUCTOR SCHEDULE ●												
ANG. SIZE OR CABLE TYPE		POL. OR CIRCUIT	RUN NUMBER									
			1	2	3	4	5	6	7	8	9	10
INDUCTIVE GROUP	3	POL. — (1)										
		POL. — (2)										
		POL. — (3)										
		POL. — (4)										
		POL. — (5)										
		POL. — (6)										
		POL. — (7)										
CAPACITIVE GROUP	12	POL. — (1)										
		POL. — (2)										
		POL. — (3)										
		POL. — (4)										
		POL. — (5)										
		POL. — (6)										
		POL. — (7)										
TOTAL CABLES-3			1	2	3	4	5	6	7	8	9	10
CONDUCTOR/2 CONDUCTOR			1/2	3/4	5/6	7/8	9/10	11/12	13/14	15/16	17/18	19/20
#6 SIGNAL SERVICE												
#6 TERMINAL												
VIDEO DETECTION CABLES												
TYP. CABLES												
CABLES/INTERCONNECT CABLE												
CONDUIT SIZE			2"	3"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"	3 1/2"
PERCENT FILL			15	21	14	20	25	23	27	7	4	3

● ALL CONDUCTORS/CABLES ARE NEW UNLESS OTHERWISE NOTED

(E) - EXISTING EQUIPMENT

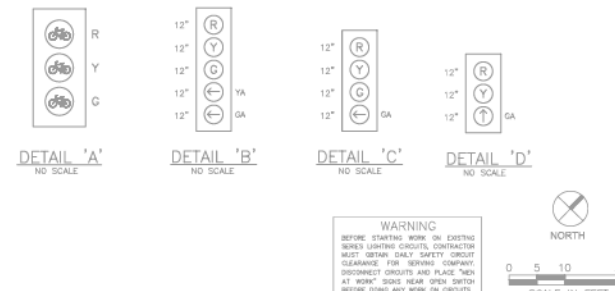
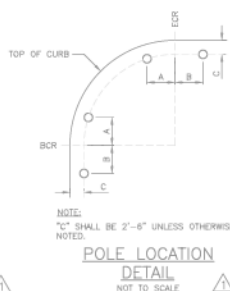
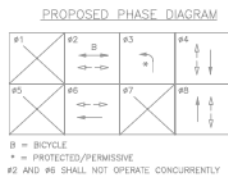
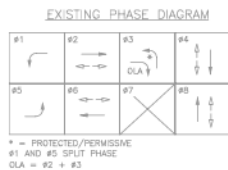


POLE SCHEDULE ●																
POLE DATA			SIGNAL M.A.	LUMINAIRE		SIGNAL MOUNTING			PED. PUSH BUTTON		POLE LOCATION			R.S.N.S.		REMARKS
NO.	TYPE	HEIGHT		M.A.	LED	M.A.	VEHICLE	PED.	PHASE	ARROW	A	B	C			
①	17-3-100	30'	15'	8'	101W	MAS-4B	SV-1-T	SP-1-CS SP-1-CS	4	→	1.4'	→	4.5'	(4th)	6	
②	1-A	10'	→	→	→	→	TV-2-T	SP-1-CS	6	→	→	0.5'	3.5'			
③	19-4-100	30'	30'	8'	101W	MAS-5B MAS	SV-1-T	SP-1-CS	6	→	→	0.3'	8.8'	(Colorado)		
④	1-A	10'	→	→	→	→	TV-1-T	SP-1-CS SP-1-CS	8	→	→	0.0'	4.5'		6	
⑤	15TS	30'	→	8'	101W	→	SV-2-T	SP-1-CS SP-1-CS	8	→	→	3.5'	3.6'		6	
⑥	1-A	10'	→	→	→	→	TV-1-T	SP-1-CS	2	→	EXISTING			(Colorado)		INSTALL NEW POLE ON EXISTING FOUNDATION.
⑦	17-3-100	30'	15'	8'	101W	MAS	SV-1-T	SP-1-CS SP-1-CS	2	→	→	2.5'	4.7'	(Colorado)	6	
⑧	1-A	10'	→	→	→	→	SV-3-TB	SP-1-CS	4	→	0.8'	→	2.5'	(4th)		

● ALL EQUIPMENT IS NEW UNLESS OTHERWISE NOTED
SEE SHEET TS08.01 FOR REMOVAL OF EXISTING SIGNAL POLES

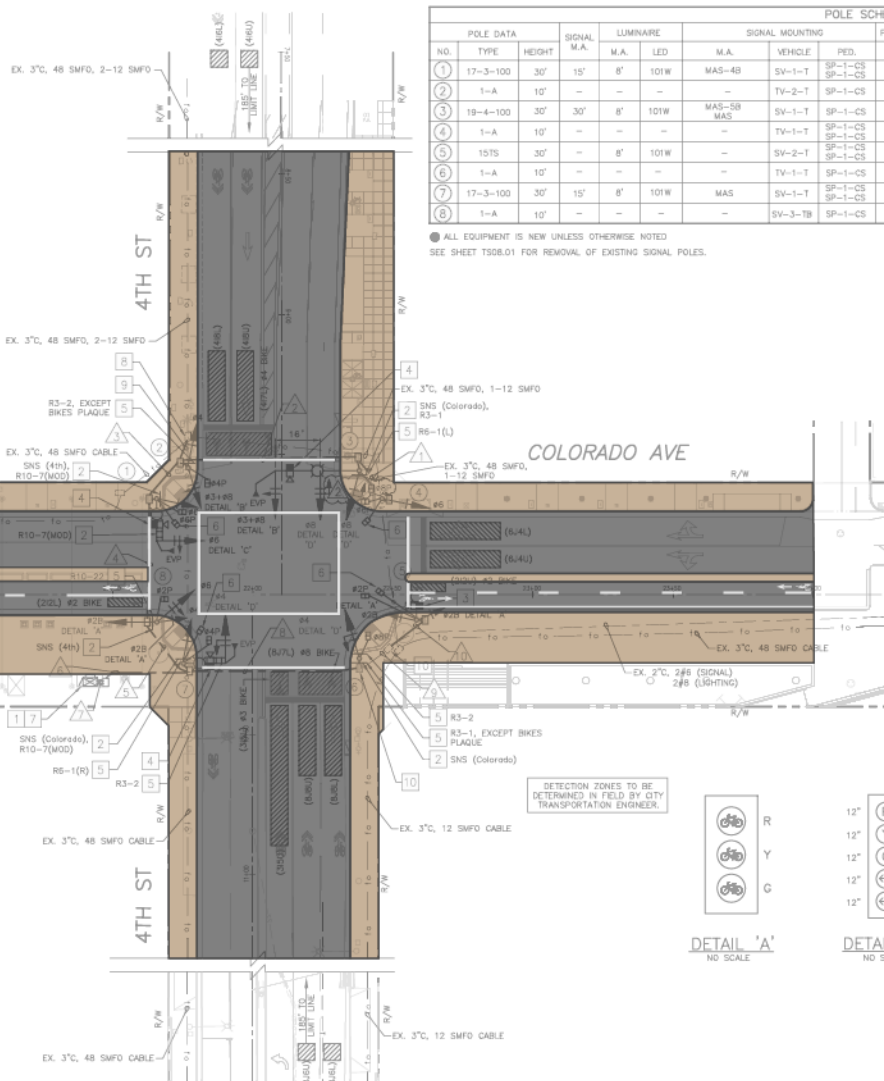
CONSTRUCTION NOTES (THIS SHEET ONLY)

- | | |
|----|---|
| 1 | FURNISH AND INSTALL TYPE 332 TRAFFIC SIGNAL CONTROLLER CABINET COMPLETE WITH FOUNDATION. PROVIDE AND INSTALL BATTERY BACK-UP FOR CONTROLLER. PROVIDE AND INSTALL VIDEO DETECTION PER SPECIFICATIONS, AND ALL OTHER APPURTENANCES IN THE CABINET NECESSARY TO PROVIDE THE INTELLIGENCE AND CONTROLS FOR VIDEO DETECTION AND INSTALL 4 TERTS VEHICLE EDGE2 SINGLE CHANNEL. PROVIDE AND INSTALL 2 TERTS VEHICLE EDGE2 SINGLE CHANNEL MODULES. 1 TERTS VEHICLE RACED MONITOR LCD MONITOR DRAWER WITH 15" COLOR MONITOR, 1 TERTS EDGE2 MONITOR AND 1 TERTS VIDEO INPUT VIDEO NETWORK SWITCH PER SPECIFICATIONS. SEE DETAIL "A" ON SHEET 1550.01 FOR FOUNDATION DETAIL. |
| 2 | INSTALL RELOCATED SIGN, SEE SIGNING AND STRIPING SHEET 550.01 FOR ADDITIONAL DETAILS. |
| 3 | FURNISH AND INSTALL TERTS RZ-4 COLOR ZOOM CAMERA ON LUMINAIRE ARM. THE CONTRACTOR SHALL ARRANGE FOR AN TERTS FIELD SERVICE TECHNICIAN TO BE ON SITE TO ASSIST WITH THE INSTALLATION AND INITIAL SETUP. |
| 4 | FURNISH AND INSTALL TERTS RZ-4 COLOR ZOOM CAMERA ON 6" PELOD MOTOR. THE CONTRACTOR SHALL ARRANGE FOR AN TERTS FIELD SERVICE TECHNICIAN TO BE ON SITE TO ASSIST WITH THE INSTALLATION AND INITIAL SETUP. |
| 5 | INSTALL DESIGNATED SIGN ON SIGNAL POLE OR SIGNAL ARM. SEE SIGNING AND STRIPING SHEET 550.01 FOR ADDITIONAL DETAILS. |
| 6 | INSTALL PEDESTRIAN SIGNAL HEAD FOR FUTURE PEDESTRIAN SIGNALS. PHASE BAC SIGNAL HEAD. |
| 7 | INSTALL SIGNAL TRAY AND MAKE CONNECTIONS AS NECESSARY TO CONNECT TRAFFIC SIGNAL CONTROLLER TO FIBER OPTIC NETWORK. |
| 8 | INSTALL CONDUIT INTO EXISTING FIBER OPTIC SIGNAL VAULT. SIGNAL NEW 12 DWD CANAL INTO EXISTING FIBER OPTIC SIGNAL VAULT. |
| 9 | 2" C.I. INSTALL AND SIGNAL NEW 12 S/W CANAL FROM EXISTING SIGNAL VAULT TO PROPOSED TRAFFIC SIGNAL CONTROLLER CABINET. |
| 10 | INSTALL CONDUIT INTO EXISTING PULP BOX |



CONDUCTOR SCHEDULE									
AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	RUN NUMBER							
12	POLE - 1	1	2	3	4	5	6	7	8
12	POLE - 2	9	10	11	12	13	14	15	16
12	POLE - 3	17	18	19	20	21	22	23	24
12	POLE - 4	25	26	27	28	29	30	31	32
12	POLE - 5	33	34	35	36	37	38	39	40
12	POLE - 6	41	42	43	44	45	46	47	48
12	POLE - 7	49	50	51	52	53	54	55	56
12	POLE - 8	57	58	59	60	61	62	63	64
12	POLE - 9	65	66	67	68	69	70	71	72
12	POLE - 10	73	74	75	76	77	78	79	80
12	POLE - 11	81	82	83	84	85	86	87	88
12	POLE - 12	89	90	91	92	93	94	95	96
12	POLE - 13	97	98	99	100	101	102	103	104
12	POLE - 14	105	106	107	108	109	110	111	112
12	POLE - 15	113	114	115	116	117	118	119	120
12	POLE - 16	121	122	123	124	125	126	127	128
12	POLE - 17	129	130	131	132	133	134	135	136
12	POLE - 18	137	138	139	140	141	142	143	144
12	POLE - 19	145	146	147	148	149	150	151	152
12	POLE - 20	153	154	155	156	157	158	159	160
12	POLE - 21	161	162	163	164	165	166	167	168
12	POLE - 22	169	170	171	172	173	174	175	176
12	POLE - 23	177	178	179	180	181	182	183	184
12	POLE - 24	185	186	187	188	189	190	191	192
12	POLE - 25	193	194	195	196	197	198	199	200
12	POLE - 26	201	202	203	204	205	206	207	208
12	POLE - 27	209	210	211	212	213	214	215	216
12	POLE - 28	217	218	219	220	221	222	223	224
12	POLE - 29	225	226	227	228	229	230	231	232
12	POLE - 30	233	234	235	236	237	238	239	240
12	POLE - 31	241	242	243	244	245	246	247	248
12	POLE - 32	249	250	251	252	253	254	255	256
12	POLE - 33	257	258	259	260	261	262	263	264
12	POLE - 34	265	266	267	268	269	270	271	272
12	POLE - 35	273	274	275	276	277	278	279	280
12	POLE - 36	281	282	283	284	285	286	287	288
12	POLE - 37	289	290	291	292	293	294	295	296
12	POLE - 38	297	298	299	300	301	302	303	304
12	POLE - 39	305	306	307	308	309	310	311	312
12	POLE - 40	313	314	315	316	317	318	319	320
12	POLE - 41	321	322	323	324	325	326	327	328
12	POLE - 42	329	330	331	332	333	334	335	336
12	POLE - 43	337	338	339	340	341	342	343	344
12	POLE - 44	345	346	347	348	349	350	351	352
12	POLE - 45	353	354	355	356	357	358	359	360
12	POLE - 46	361	362	363	364	365	366	367	368
12	POLE - 47	369	370	371	372	373	374	375	376
12	POLE - 48	377	378	379	380	381	382	383	384
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12	POLE - 50	393	394	395	396	397	398	399	400
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12	POLE - 55	433	434	435	436	437	438	439	440
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12	POLE - 57	449	450	451	452	453	454	455	456
12	POLE - 58	457	458	459	460	461	462	463	464
12	POLE - 59	465	466	467	468	469	470	471	472
12	POLE - 60	473	474	475	476	477	478	479	480
12	POLE - 61	481	482	483	484	485	486	487	488
12	POLE - 62	489	490	491	492	493	494	495	496
12	POLE - 63	497	498	499	500	501	502	503	504
12	POLE - 64	505	506	507	508	509	510	511	512
12	POLE - 65	513	514	515	516	517	518	519	520
12	POLE - 66	521	522	523	524	525	526	527	528
12	POLE - 67	529	530	531	532	533	534	535	536
12	POLE - 68	537	538	539	540	541	542	543	544
12	POLE - 69	545	546	547	548	549	550	551	552
12	POLE - 70	553	554	555	556	557	558	559	560
12	POLE - 71	561	562	563	564	565	566	567	568
12	POLE - 72	569	570	571	572	573	574	575	576
12	POLE - 73	577	578	579	580	581	582	583	584
12	POLE - 74	585	586	587	588	589	590	591	592
12	POLE - 75	593	594	595	596	597	598	599	600
12	POLE - 76	601	602	603	604	605	606	607	608
12	POLE - 77	609	610	611	612	613	614	615	616
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12	POLE - 81	641	642	643	644	645	646	647	648
12	POLE - 82	649	650	651	652	653	654	655	656
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12	POLE - 84	665	666	667	668	669	670	671	672
12	POLE - 85	673	674	675	676	677	678	679	680
12	POLE - 86	681	682	683	684	685	686	687	688
12	POLE - 87	689	690	691	692	693	694	695	696
12	POLE - 88	697	698	699	700	701	702	703	704
12	POLE - 89	705	706	707	708	709	710	711	712
12	POLE - 90	713	714	715	716	717	718	719	720
12	POLE - 91	721	722	723	724	725	726	727	728
12	POLE - 92	729	730	731	732	733	734	735	736
12	POLE - 93	737	738	739	740	741	742	743	744
12	POLE - 94	745	746	747	748	749	750	751	752
12	POLE - 95	753	754	755	756	757	758	759	760
12	POLE - 96	761	762	763	764	765	766	767	768
12	POLE - 97	769	770	771	772	773	774	775	776
12	POLE - 98	777	778	779	780	781	782	783	784
12	POLE - 99	785	786	787	788	789	790	791	792
12	POLE - 100	793	794	795	796	797	798	799	800
12	POLE - 101	801	802	803	804	805	806	807	808
12	POLE - 102	809	810	811	812	813	814	815	816
12	POLE - 103	817	818	819	820	821	822	823	824
12	POLE - 104	825	826	827	828	829	830	831	832
12	POLE - 105	833	834	835	836	837	838	839	840
12	POLE - 106	841	842	843	844	845	846	847	848
12	POLE - 107	849	850	851	852	853	854	855	856
12	POLE - 108	857	858	859	860	861	862	863	864
12	POLE - 109	865	866	867	868	869	870	871	872
12	POLE - 110	873	874	875	876	877	878	879	880
12	POLE - 111	881	882	883	884	885	886	887	888
12	POLE - 112	889	890	891	892	893	894	895	896
12	POLE - 113	897	898	899	900	901	902	903	904
12	POLE - 114	905	906	907	908	909	910	911	912
12	POLE - 115	913	914	915	916	917	918	919	920
12	POLE - 116	921	922	923	924	925	926	927	928
12	POLE - 117	929	930	931	932	933	934	935	936
12	POLE - 118	937	938	939	940	941	942	943	944
12	POLE - 119	945	946	947	948	949	950	951	952
12	POLE - 120	953	954	955	956	957	958	959	960
12	POLE - 121	961	962	963	964	965	966	967	968
12	POLE - 122	969	970	971	972	973	974	975	976
12	POLE - 123	977	978	979	980	981	982	983	984
12	POLE - 124	985	986	987	988	989	990	991	992
12	POLE - 125	993	994	995	996	997	998	999	1000

ALL CONDUCTORS/CABLES ARE NEW UNLESS OTHERWISE NOTED
(E) - EXISTING EQUIPMENT



POLE SCHEDULE									
NO.	TYPE	HEIGHT	SIGNAL M.A.	LUMINAIRE M.A.	LED	SIGNAL MOUNTING M.A.	VEHICLE	PED. PHASE	POLE LOCATION
1	17-3-100	30'	15'	8'	101W	MAS-48	SV-1-T	SP-1-CS	4
2	1-A	10'	-	-	-	-	TV-2-T	SP-1-CS	6
3	19-4-100	30'	30'	8'	101W	MAS-58 MAS	SV-1-T	SP-1-CS	6
4	1-A	10'	-	-	-	-	TV-1-T	SP-1-CS	8
5	15TS	30'	-	8'	101W	-	SV-2-T	SP-1-CS	8
6	1-A	10'	-	-	-	-	TV-1-T	SP-1-CS	2
7	17-3-100	30'	15'	8'	101W	MAS	SV-1-T	SP-1-CS	2
8	1-A	10'	-	-	-	-	SV-3-TB	SP-1-CS	4

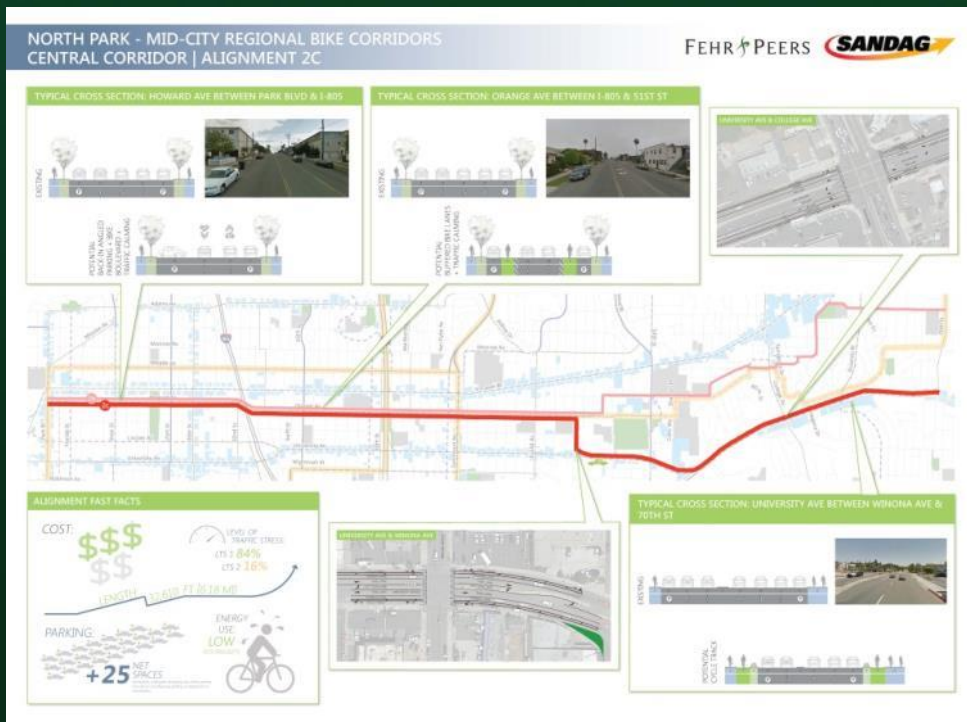
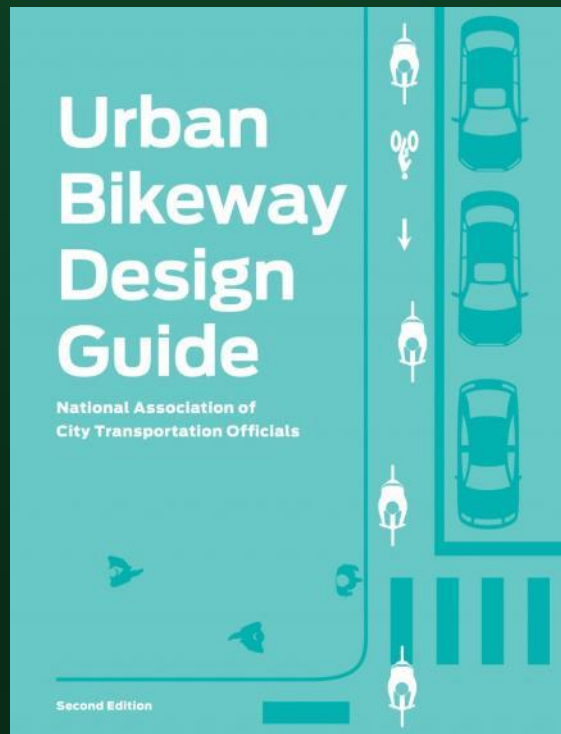
ALL EQUIPMENT IS NEW UNLESS OTHERWISE NOTED
SEE SHEET TS08.01 FOR REMOVAL OF EXISTING SIGNAL POLES.

CONSTRUCTION NOTES (THIS SHEET ONLY)

- FURNISH AND INSTALL TYPE 332 TRAFFIC SIGNAL CONTROLLER CABINET COMPLETE WITH FOUNDATION. FURNISH AND INSTALL BATTERY BACKUP, RACK MOUNTED 2070 CONTROLLER WITH 16 CHANNEL CMU PER SPECIFICATIONS, AND ALL OTHER APPURTENANCES IN THE CABINET NECESSARY TO PROVIDE THE INTENDED OPERATIONS. FOR VIDEO DETECTION FURNISH AND INSTALL 4 ITEMS VANTAGE EDGE SINGLE CHANNEL PROCESSORS, 2 ITEMS VANTAGE EDGE DUAL CHANNEL EXTENSION MODULES, 1

Tips for Grant Applications

- Explain or **show** how intersections will look and operate
- Consult standards and innovative design guidelines
- Identify trade-offs and document support for proposed solutions
- **Corridor planning/concept design phase (include outreach)**



Greening Your Active Transportation Projects

Ryan Snyder
Transpo Group

Why Think Green?

- Urban runoff is the primary source of water pollution in local streams, lakes and the ocean
- Infiltration techniques can help active transportation projects



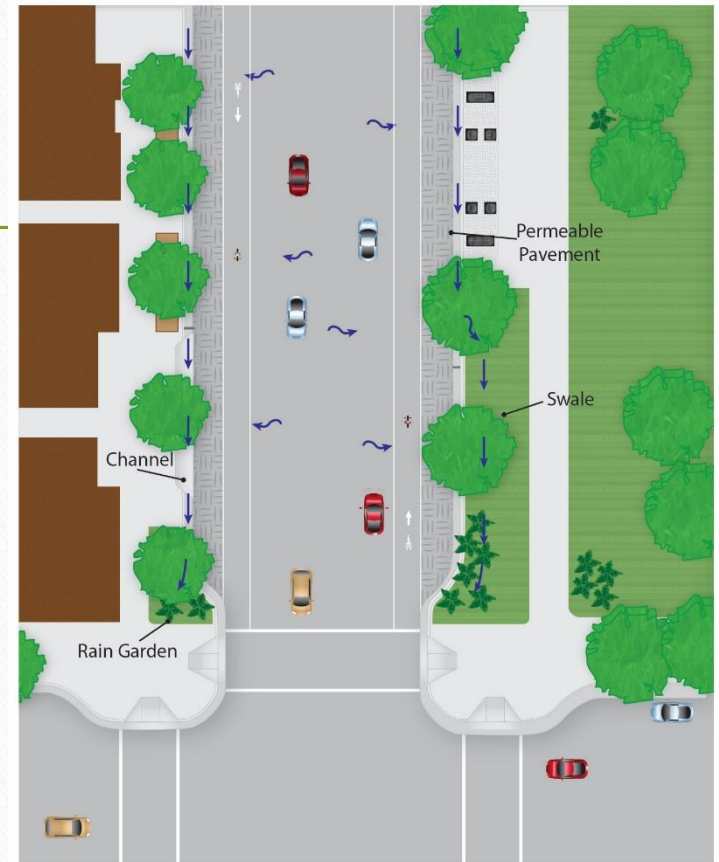
Application to Active Transportation

- Redesign of streets and curbs changes drainage
- New sidewalks may not need curb and gutter
- Curb extensions sometimes require moving catch basins



Why Use Infiltration?

- Prevent runoff
- Retain the water
- Make your active transportation project work



Infiltration Techniques

- Permeable surface
- Bioswales
- Raingardens
- Planters
- Vegetated buffer strips
- Infiltration strips



Permeable Surface

Allow Water to Filter Down



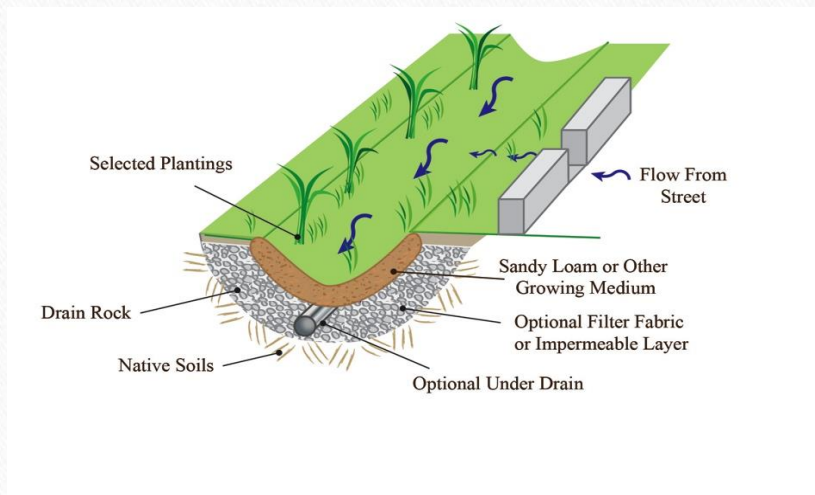
Permeable Option

Rubber Sidewalks



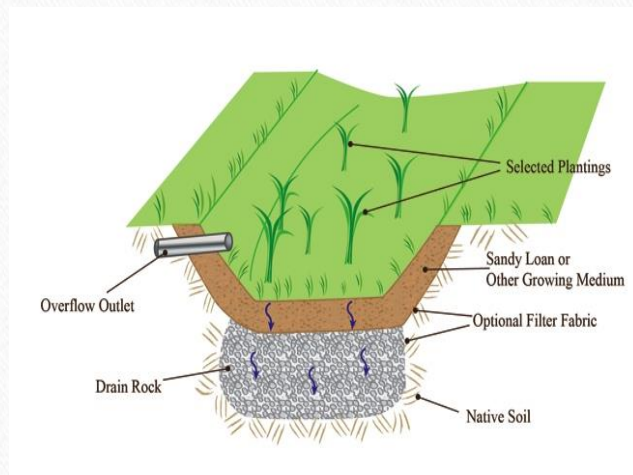
Bioswales

Linear Vegetated Depressions



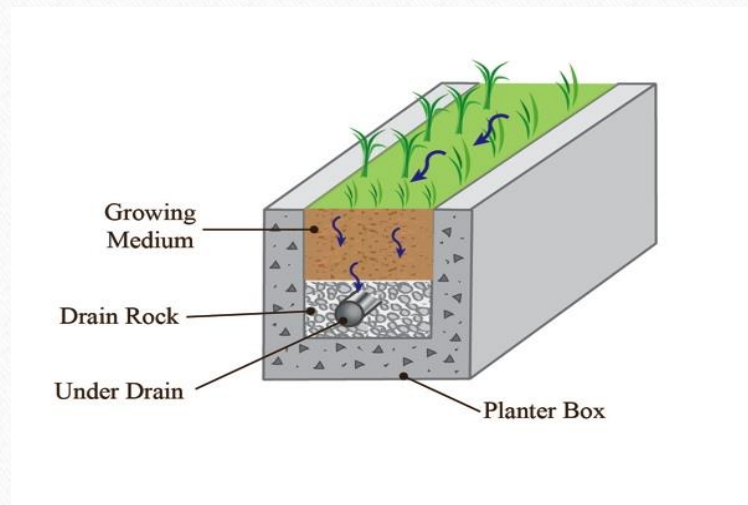
Raingardens

Vegetated Depressions in the Landscape



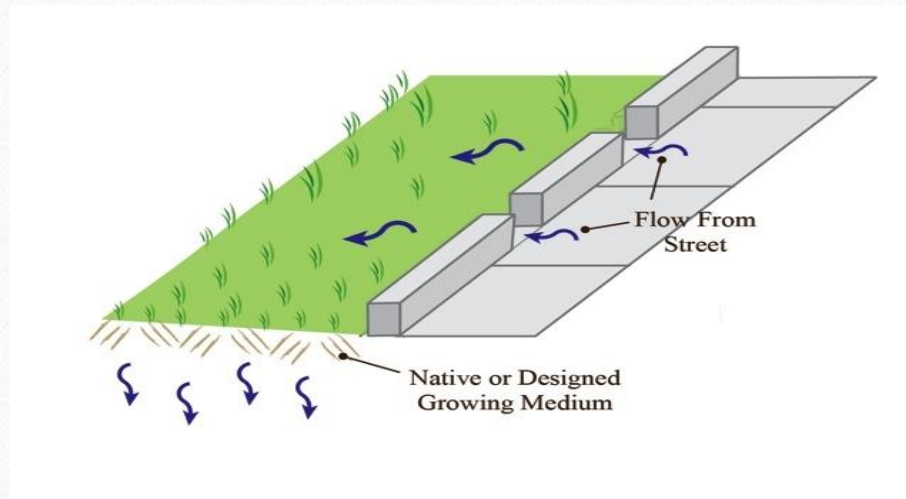
Planters

Above Grade or At Grade With Solid Walls and Flow-Through Bottom



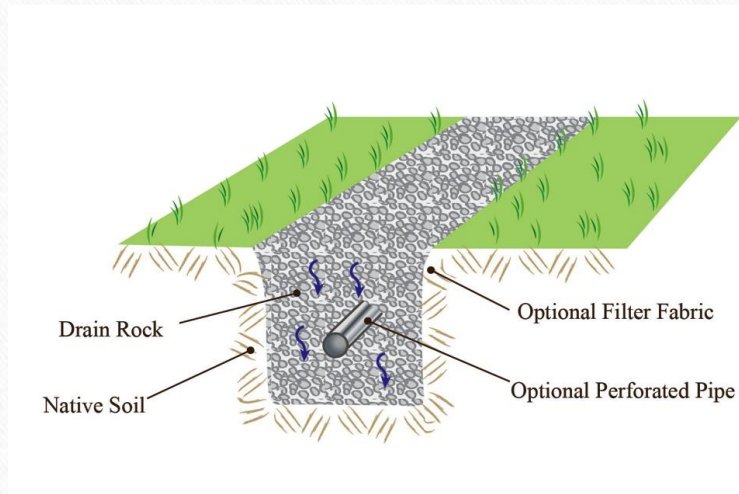
Vegetated Buffer Strips

Sloping Planted Areas that Treat and Absorb Flow from Adjacent Impervious Surfaces



Infiltration Trenches

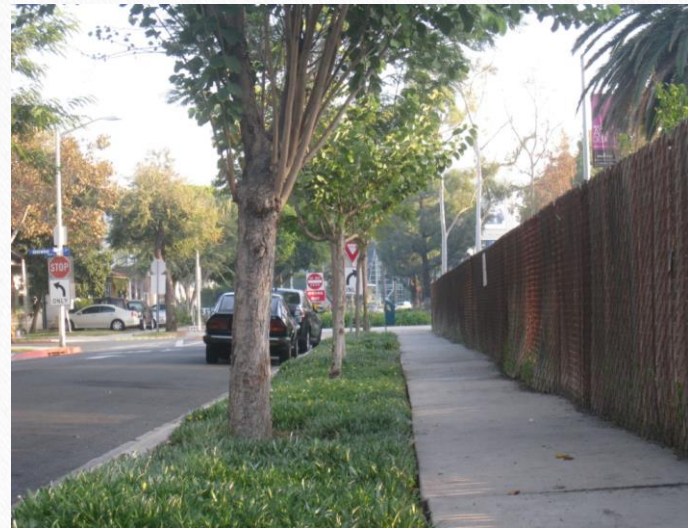
Linear, Rock-Filled Features that Promote Infiltration with Permeable Soil Below



		BIORETENTION			DETENTION		PAVING	DELIVERY AND CONVEYANCE	INLET PROTECTIONS		
	STREET CONTEXT	Swales	Planters	Vegetated Buffer Strips	Rain Gardens	Infiltration Trenches and Dry Wells	Permeable Paving	Channels and Runnels	Screens	Inlet Inserts	Pipe Filters
Commercial	Downtown Commercial		o			o	o	o	o	o	o
	Commercial Thoroughway		o	o		o	o	o	o	o	o
	Neighborhood Commercial		o	o	o	o	o	o	o	o	o
Residential	Downtown Residential	o	o		o	o	o	o	o	o	o
	Residential Thoroughway	o	o		o	o	o	o	o	o	o
	Neighborhood Residential	o	o		o	o	o	o	o	o	o
Industrial And Mixed-Use	Industrial	o	o		o	o	o	o	o	o	o
	Mixed-Use		o	o		o	o	o	o	o	o
Special	Sidewalk Furniture Zone	o	o		o	o	o	o	o	o	o
	Park Edge	o	o		o	o	o	o	o	o	o
	Boulevard	o	o		o	o	o	o	o	o	o
	Ceremonial (Civic)						o	o	o	o	o
Small	Alley		o			o	o	o	o	o	o
	Shared Public Way		o			o	o	o	o	o	o
	Walk Street		o	o		o	o	o	o	o	o

Shade Trees

Provide Shade and Beauty



Ryan Snyder

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Adding Non-Infrastructure “E’s” to Boost Your ATP Application

**Ryan Johnson,
Alta Planning + Design**



Alta Planning + Design

- Nation's leading team of bicycle, pedestrian, and trails planning and design professionals
- 100+ planners, designers, engineers in 25 offices
- Dedicated Programs team focused on developing education and encouragement campaigns
- **Helped win nearly \$200 million in grants across the country**



Why Add N-I to Your Application?

- Develop a more comprehensive, successful project
- Show reviewers that you are fully committed to the project
- Increase your chances of getting funded!



Types of N-I Programs

- **Education**
- Encouragement
- Enforcement
- Evaluation



Types of N-I Programs

- **Education**
- Encouragement
- Enforcement
- Evaluation



Types of N-I Programs

- Education
- **Encouragement**
- Enforcement
- Evaluation



Types of N-I Programs

- Education
- **Encouragement**
- Enforcement
- Evaluation



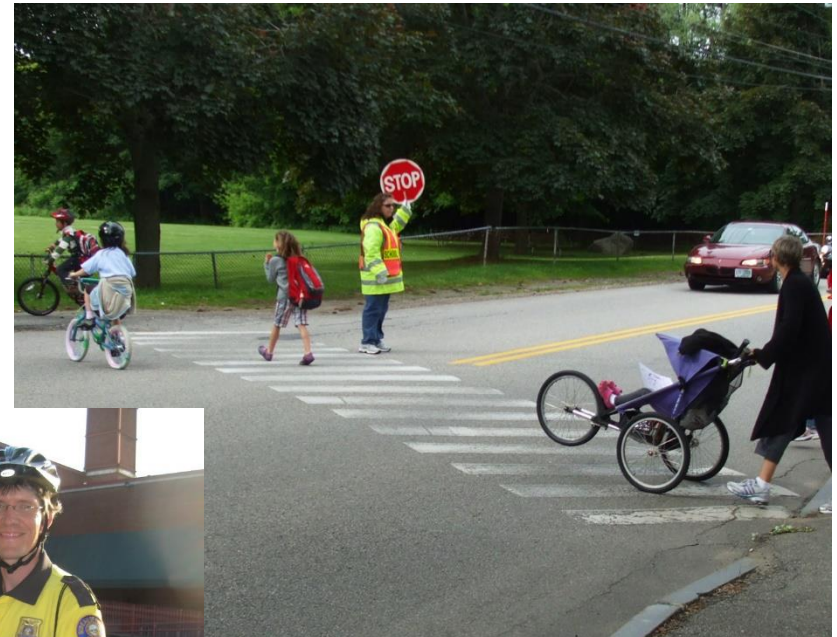
Types of N-I Programs

- Education
- Encouragement
- **Enforcement**
- Evaluation



Types of N-I Programs

- Education
- Encouragement
- **Enforcement**
- Evaluation



Types of N-I Programs

- Education
- Encouragement
- Enforcement
- **Evaluation**



Creating a Competitive Application with N-I “Bonuses”

- Articulate how the added non-infrastructure programs will help your project become well-used and embraced by the community.



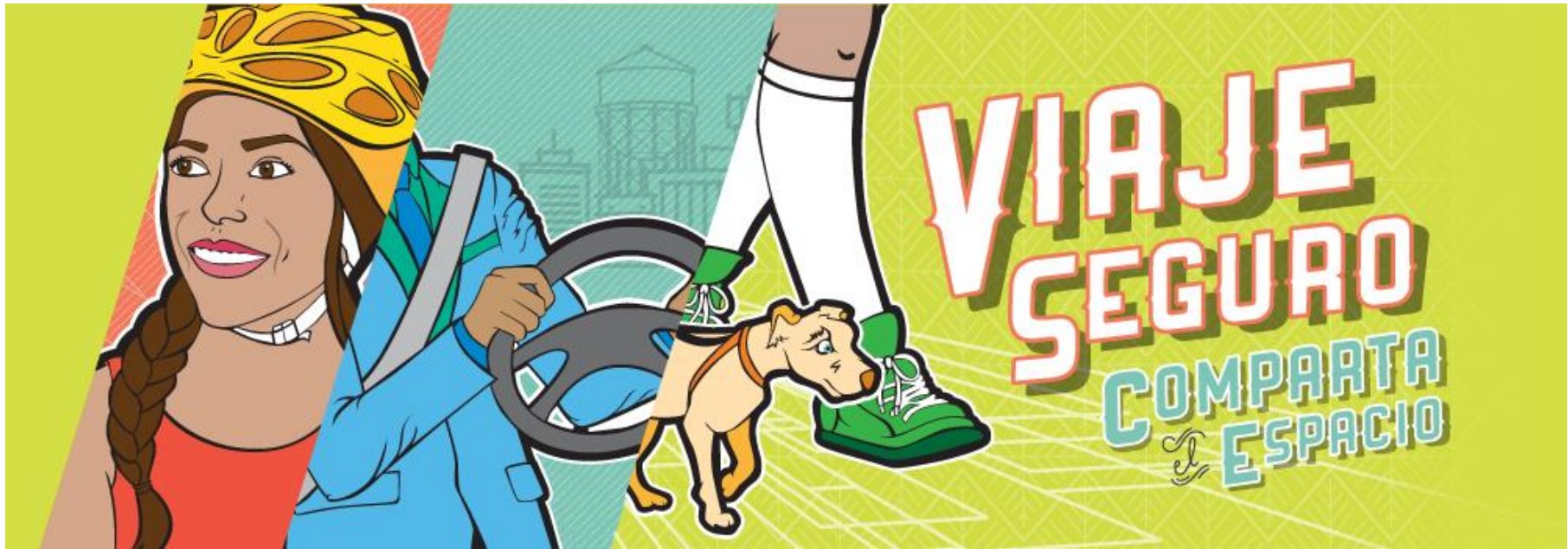
Creating a Competitive Application with N-I “Bonuses”

- Multi-Jurisdictional Coordination



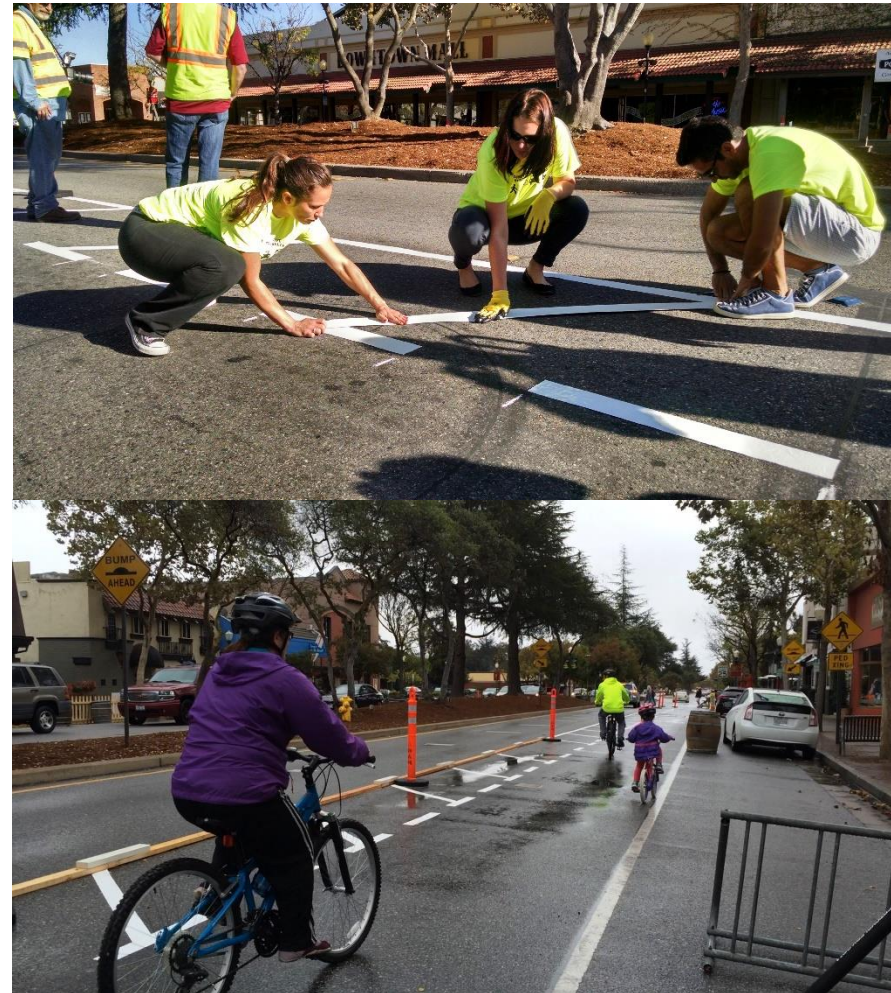
Creating a Competitive Application with N-I “Bonuses”

- Don't forget who you're serving



Successful Example from Los Angeles

- L.A. Pedestrian & Bicycle Neighborhood Intersection Enhancements
 - Funded in ATP Cycle II (\$1.5M)
 - 4 neighborhood locations
 - Pop-up demonstration events prior to construction
 - Public workshops in each neighborhood
 - Online webinar/video explaining the project's benefits
 - Pre- and post-installation evaluation



Questions?

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